

Kaprekarjev par

```
def kaprekar(x):
    n = len(x)
    mini = ''.join(sorted(x))          # uredi številke po velikosti v premem
    maxi = ''.join(sorted(x, reverse=True)) # in obratnem vrstnem redu
    x = str(int(maxi) - int(mini))      # x je razlika
    x = x.zfill(n)                     # doda vodilne ničle, da dolžina ostane n
    return x

def kaprekar_(x):
    visited = {x}
    while True:
        x = kaprekar(x)
        if x in visited:
            break
        visited.add(x)
    return x

def kaprekar_cycle(n):
    nn = [kaprekar_(n)]
    while True:
        m = kaprekar(nn[-1])
        if m == nn[0]:
            break
        nn.append(m)
    return ' '.join(nn)

if __name__ == '__main__':
    import sys
    for n in sys.stdin:
        n = int(n)
        print(kaprekar_(str(n)))
```

Collatzevo zaporedje

```
#!/usr/bin/env python

def collatz(n):
    if n % 2 == 0:
        return n // 2
    else:
        return 3 * n + 1

def max_collatz(n):
    max_ = 0
    while n != 1:
        n = collatz(n)
        if n > max_:
            max_ = n
    return max_

if __name__ == '__main__':
    import sys
    line = sys.stdin.readline()
    try:
        n = int(line)
        print(max_collatz(n))
    except:
        print('None')
```

Vsota cikla permutacije

'''

#!/usr/bin/env python

```
import random
```

```
def perm_cyc(p): cycles = [] indeks = list(range(len(p))) while indeks: cycle = [] first = indeks[0] cycle.append(first) indeks.remove(first) i = p[first] while True: if i == first: break else: cycle.append(i) indeks.remove(i) i = p[i] cycles.append(cycle) return cycles
```

```
if name == 'main': import sys line = sys.stdin.readline() p = eval(line) print(sum(perm_cyc(p)[0])) ``
```

Koda TAKO

```
#!/usr/bin/env python3

def check_isbn(n):
    n = [int(x) for x in list(n) if x != '-']
    t = 0
    s = 0
    for i in range(10):
        t += n[i];
        s += t;
    return s % 11 == 0

if __name__ == '__main__':
    import sys
    line = sys.stdin.readline()
    print(check_isbn(line.strip()))
```